



CHANGING TRENDS IN PERIPARTUM HYSTERECTOMY IN TERTIARY CARE CENTRE OF WESTERN INDIA IN 25 YEARS

Gynecology

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ABSTRACT

To evaluate the changes in incidence, indications, complications, maternal outcome in cases of peripartum hysterectomy over 1987 to 2014. This is a retrospective observational study. All case records of peripartum hysterectomy from July 1987 to June 1989 and July 2012 to June 2014 performed at a tertiary care referral centre were analysed and results were compared to identify the changing trends. Total number of deliveries in the study period was 28444 and peripartum hysterectomy cases were 73. On comparing the study data of 1987-89 and 2012-14 incidence of peripartum hysterectomy increased from 0.21% to 0.28%. Major change in indications observed. Morbidly adherent placenta as a cause increased from 4% to 25%. Most common indication remained rupture uterus but cause of rupture shifted from obstructed labour 20% to 6.25% to previous caesarean scar rupture 4% to 16.6%. Rate of caesarean section increased from 9.2% to 29%. Maternal death in 1987-89 was 4% and in 2012-14 was 18.75%.

KEYWORDS

Obstetric hysterectomy, Peripartum hysterectomy, Caesarean hysterectomy, Morbidly adherent placenta, Maternal near miss

INTRODUCTION

Peripartum hysterectomy refers to the surgical removal of a pregnant uterus or recently pregnant uterus¹. Peripartum hysterectomy also known as obstetric hysterectomy was developed as a heroic operation of necessity to control postpartum haemorrhage and prevent infection thereby reducing maternal mortality

In 1871 Eduardu Porro of Milan succeeded in performing elective hysterectomy after a caesarean section on a 25 years old primigravida in which mother and infant survived after a stormy 40 days postoperative course². He published this case in 1876 in great detail³. This operation was then referred as **Porro's operation**.

The most common indication for Emergency obstetric hysterectomy which is cited in literature is postpartum haemorrhage due to uterine rupture and uterine atony⁴. However due to increase in number of caesarean deliveries over the past two decades, placenta accreta has emerged as a common indication for this operation in developed countries⁵. Other indications are to arrest haemorrhage from lower-segment bleeding associated with the uterine incision or placental implantation, uterine vessel laceration, broad ligament hematoma or puerperal sepsis. Large leiomyomas may preclude satisfactory hysterotomy closure and thus necessitate hysterectomy. An elective indication for peripartum hysterectomy includes large symptomatic leiomyoma and severe cervical dysplasia or carcinoma in situ⁶.

Emergency peripartum hysterectomy is usually performed in life threatening and intractable obstetric hemorrhage and may therefore be considered as near miss event⁷.

The objective of this study was to examine the incidence, indications, outcomes and complications of emergency peripartum hysterectomy in our tertiary care hospital & to determine the changing trends in two different time periods. This would help to highlight the lack of availability and utilization of antenatal services, identify avoidable factors and stress the need to organize healthcare services, which will help to improve maternal and foetal outcome.

MATERIAL AND METHOD

In this retrospective analytical study all cases of emergency peripartum hysterectomy performed at Civil Hospital, B.J.Medical College, Ahmedabad, Gujarat, India, a teaching hospital and referral institute in West India between July 1987 to June 1989 and July 2012 to June 2014 were analysed. All peripartum hysterectomy performed at our institute irrespective of the cases delivered in our institute or referred from periphery were included. Obstetric hysterectomy done outside our hospital and then referred were excluded from the study. Records of all

women who underwent emergency peripartum hysterectomy were retrieved from medical record department.

Each case was analysed, computed and tabulated according to standard proforma which included socio-demographic details, detailed obstetric history, booking status of patients, referred or directly approached, high risk factor, mode of delivery, gestational age at delivery, indication for hysterectomy, blood transfusion, maternal morbidity and mortality. The data were analyzed using simple proportion, rates and tables.

OBSERVATIONS AND RESULT

Total deliveries, caesarean section, vaginal delivery and emergency peripartum hysterectomy during the two groups of study duration are compared in table 1. Incidence of Emergency Peripartum Hysterectomy (EPH) increased from 0.21% to 0.28% i.e., 1 per 460 deliveries in 1987-1989 to 1 per 352 deliveries in 2012-2014.

TABLE:1 INCIDENCE

Year	Total No. Of Delivery	CS	% Of Cs	Eph (%)
1987-1989	11513	1061	9.2%	25 (0.21%)
2012-2014	16931	4971	29.3%	48 (0.28%)

There is significant increase in caesarean section seen from 9.2% to 29.3%. Increase in caesarean section rate has important bearing on rate of EPH. Socio-demographic details of patients are compared in table 2.

TABLE :2 SOCIO-DEMOGRAPHIC DETAILS

CHARACTERISTICS	2012-2014	1987-1989
AGE (years)		
19-25	12 (25.4%)	5 (20%)
26-35	34 (70.8%)	19 (76%)
36-40	2 (4.2%)	1 (4%)
RESIDENCE		
Rural	27 (56.3%)	14 (56%)
Urban	21 (43.7%)	11 (44%)
ANTENATAL VISITS		
Booked	13 (27%)	4 (16%)
Unbooked	35 (73%)	21 (84%)
GESTATIONAL AGE		
<28 Weeks	4 (8.3%)	7 (28%)
28-32 Weeks	3 (6.2%)	1 (4%)
>32 weeks	28 (58.3%)	10 (40%)
Postpartum following vaginal delivery	11 (22.9%)	3 (12%)
Postpartum following caesarean section	2 (4.2%)	4 (16%)

PARITY		
0	6 (12.5%)	0 (0%)
1	8 (16.6%)	1 (4%)
≥ 2	34 (70.8%)	24 (96%)

Majority of patient belonged to 26-35 year age in both the groups. 56% of patients belonged to rural area, ours being a referral center, patients from rural area were referred from peripheral centres, majority of these patients were not taking regular ANC. Less than 30% patients were booked in both the group reason being ignorance, illiteracy and non availability of adequate health service nearby. In 1987-1989 28% (7 cases) of patient presented in first and second trimester. Out of these six cases of complicated abortion were referred. In two cases hysterectomy was done due to extensive and multiple site damage to uterus during suction curettage for abortion. In three cases rupture of uterus was seen due to oxytocin drip for induction of abortion in periphery. One case of septic abortion done by wooden stick in uterus by a quack. One case of adherent placenta leading to PPH even after manual removal, she had history of curettage in past. Whereas during 2012-2014 such cases were not seen, this can be explained on the basis that there has been increased awareness in people regarding facilities made available for MTP & free services made available nearby even in peripheral areas by Government. During 2012-2014, 4 cases (8.3%) present in first two trimesters. One with history of fall and previous CS had Rupture uterus. One presented with bleeding per vaginam after taking MTP pills having history of 4 LSCS also found to have rupture uterus. Third patient with bleeding per vaginam in previous 3 LSCS found to be placenta percreta involving bladder. Fourth patient presented with macerated IUFD at 26 weeks with early DIC landed in intractable PPH. Indications of EPH are discussed shown in table 3 and risk factors in table 4.

TABLE : 3 INDICATION OF EPH

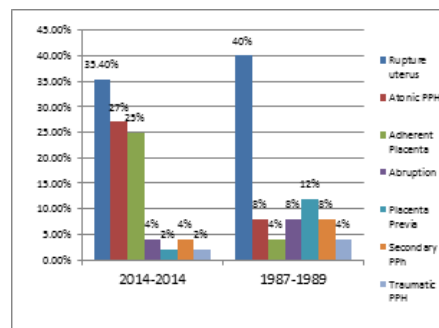
INDICATION	2012-2014 (n=48)	1987-1989 (n=25)
Rupture uterus	17 (35.4%)	10 (40%)
Atonic PPH	13 (27%)	2 (8%)
Morbidly adherent placenta	12 (25%)	1 (4%)
PPH with Placenta previa	1 (2%)	3 (12%)
PPH with Placental abruption	2 (4.2%)	2 (8%)
Secondary PPH	2 (4.2%)	2 (8%)
Broad ligament hematoma (traumatic PPH)	1 (2%)	1 (4%)
Uterine perforation	0	2 (8%)
Septic abortion	0	1 (4%)

TABLE : 4 RISK FACTORS

RISK FACTOR	2012-2014	1987-89
IN CASES OF RUPTURE UTERUS		
Previous LSCS	8 (16.6%)	1 (4%)
Obstructed labour with oxytocin abuse	3 (6.25%)	5 (20%)
Multiparity with Prolonged labour	6 (12.5%)	0
Oxytocin drip for abortion	0	3 (12%)
Traumatic rupture (while doing Internal podalic Version)	0	1 (4%)
IN CASES OF PPH		
Abruptio	2	2
Placenta previa	1	3
Jaundice	3	0
IUFD with Early DIC	1	0
Pre-eclampsia	2	0
IN CASES OF MORBIDLY ADHERENT PLACENTA		
Previous LSCS	10	0
H/O Dilatation and curettage	1	1
Placenta previa	5	0

Major indication for obstetric hysterectomy was rupture uterus in both groups but the cause of rupture shifted from obstructed labour 20% (1987-89)- 6.25% (2012-14) to previous caesarean scar rupture 4% (1987-89) - 16.6% (2012-14). Incidence of adherent placenta increased from 4% to 25%, this is because of increased incidence of repeated caesarean sections in recent times leading to increased cases of adherent placenta thereby increasing the incidence of obstetric hysterectomy. In 2012-14 morbidly adherent placenta includes placenta accreta (7 cases), increta (2 cases) and percreta (3 cases). Incidence of EPH for atonic PPH is high in 2012-14 as there were more cases with high risk factors like jaundice, DIC, PIH, prolonged labour

in contrast to 1987-89. In 1987-89 study 2 (8%) uterine perforation and 1 (4%) septic abortion were found whereas in 2012-14 study no such cases were seen this is because of better antibiotic availability in present time and increased awareness in people regarding facilities made available for MTP.

CHART :1 COMPARISON OF INDICATIONS

In 2012-14 2 cases (4.2%) of secondary PPH both referred from periphery, one patient presented on 3rd postpartum day with fever and bleeding, had atonic uterus. Patient delivered in PHC, the cause of fever was not diagnosed and patient was taken home. Proper antibiotics at right time may have prevented the infection leading to PPH. Second patient was referred post delivery for bleeding per vaginam controlled with oxytocics in our hospital, on 2nd postpartum day again had intractable bleeding and obstetric hysterectomy was done. In 1987-89, 2 cases (8%) of secondary PPH were referred from periphery, both underwent caesarean section and landed in heavy bleeding on 15th and 25th postpartum day and referred to our centre.

TABLE :5 MODALITIES TO ARREST HAEMORRHAGE BEFORE EPH

INTERVENTION	2012-14	1987-89
UTERINE ARTERY LIGATION	2 (4.2%)	1 (4%)
INTERNAL ILIAC LIGATION	2 (4.2%)	0 (0%)
UTERINE PACKING	8 (16.6%)	2 (8%)

TABLE : 6 COMPLICATIONS

COMPLICATION	2012-14 (%)	1987-89 (%)
Bladder Injury	7 (14.5%)	2 (8%)
Disseminate Intravascular Coagulation	5 (10.4%)	0
Acute Renal Failure (Oliguria)	3 (6.2%)	1 (4%)
Bowel injury + Burst abdomen	1 (2.1%)	0
Re-laparotomy	3 (6.2%)	0
Septicemia	2 (4.2%)	1 (4%)
Mortality	9 (18.75%)	1 (4%)

Most common major complication was urinary bladder injury in both groups while operating. Most cases were of previous caesarean section in 2012-14 with adherent placenta at scar site. Bladder is the nearest organ susceptible to injury during peripartum hysterectomy. In 2012-14, 5 (10.4%) patients landed in DIC, 3 (6.2%) had acute renal failure, 1 (2%) patient had colon injury during Burst abdomen repair and ileostomy was done and 2 (4.2%) developed septicemia. 3 (6.2%) patient underwent relaparotomy, indications for relaparotomy was hemoperitoneum, rectus hematoma and burst abdomen. Out of these patient with rectus hematoma died due to DIC while other two survived. With increased incidence of caesarean section there is increase in EPH and that is also associated with high mortality and morbidity.

DISCUSSION

The incidence of emergency peripartum hysterectomy reported in previous studies from India varies between 0.73 to 6.9 per 1000 deliveries^{8,9}. In our study incidence is 2 per 1000 deliveries. This wide variation within a country is probably a result of differences in population characteristics and the availability of antenatal care, intrapartum monitoring, obstetric and surgical skill, blood transfusion facilities and efficient transport system. Maximum number of patients are between para 2 to 4 (68.5%) which is similar to other studies Kant Anita et al¹ (65%), Najmabano sheikh et al¹⁰ (56.1%), Sahasrabhojane et al¹¹ (63.3%). Mortality in high in 2012-14, it is comparable to recent other Indian study. Chawla et al¹² in a retrospective, observational, and analytical study over a period of eight years had 56 cases of emergency

obstetric hysterectomy (EOH) and reported maternal mortality of 17.7%.

CONCLUSION

Emergency peripartum hysterectomy is a life saving procedure if decision is taken on time. Every obstetrician should be conversant with obstetric hysterectomy, it may be required anytime either in vaginal delivery or caesarean section. Identification of high risk factor helps in predicting and preparing to deal complication. High risk factors which are identified antenatally should be managed properly and in case of unavailability of facilities patient should be referred antenatally to higher centre. Day by day the incidence of obstetric hysterectomy is going to increase because of increased caesarean section rates. Prompt referral should be done to higher center, timely referral is crucial for patients survival. Oxytocin when used for induction or augmentation, proper monitoring of progress of labour should be done. Use of partograph can definitely help in avoiding prolonged labour and catastrophic complication. In cases of intrauterine death early termination should be done before the patient progress to DIC. Overenthusiastic curettage of pregnant uterus should never be done. Ultrasound and colour Doppler should always be done to rule out placental invasion and MRI in suspected cases, prior planning of operative steps should be done. Day by day the incidence of obstetric hysterectomy is going to increase because of increased caesarean section rates.

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